

Gel Permeation Chromatography (GPC) Standard Laboratory Module (SLM™)

General Overview of the GPC SLM

GPC cleanup is a size-exclusion process used to remove large molecules from the sample before it undergoes gas chromatography/mass spectrometry (GC/MS).

Environmental Protection Agency (EPA) Method

USEPA Method 3640.

Standard Analysis Method (SAM)

This SLM supports all organic SAM systems.

Advantages

Average automated processing times are on the order of 30 minutes. Cross-contamination testing has shown a very clean system when testing with low levels of target analytes.

General Description of the GPC SLM

The GPC SLM is an automated system developed for the Contaminant Analysis Automation (CAA) Program. It uses commercially available technology integrated into an automated, robot-accessible instrument using the CAA standards. The GPC will process samples in three distinct modes: the GPC with on-line evaporation, straight GPC processing, or GPC processing with concentration and dilution functions. Sample output is either a 10-mL sealed serum vial or a 1.0-mL auto-sampler vial.

The automated module allows samples to be directly injected from the preceding module or to be transferred via individual glass vials. Additional enhancements to the base GPC capabilities include the ability to further concentrate the sample or to dilute it as needed for analysis.



Figure 1. The GPC SLM.

Status

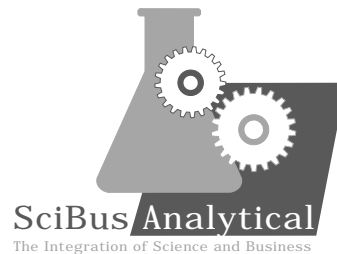
This SLM is in the prototype stage and is ready for licensing and manufacture by a commercial partner.

Industrial Partner

ABC Instruments

Developers

ABC Instruments and the Department of Energy's Idaho National Engineering Laboratory developed the GPC under a Cooperative Research and Development Agreement.



University of Florida
University of Tennessee
University of Texas

LALP-95-90
April 1995

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the University of California for the U.S. Department of Energy under contract W-7405-ENG-36.

All company names, logos, and products mentioned herein are registered trademarks of their respective companies. Reference to any specific company or product is not to be construed as an endorsement of said company or product by the Regents of the University of California, the United States, the U.S. Department of Energy, nor any of their employees.

Los Alamos
NATIONAL LABORATORY

Los Alamos, New Mexico 87545

A U.S. DEPARTMENT OF ENERGY
LABORATORY